



The Pileup

Newsletter of the CDXA

ARRL Field Day (Saturday and Sunday, June 24 and 25)

By Dick Williams, W3OA

Can we win our class this year? In 2004 and 2005 CDXA placed third Country wide in Class 2E—two stations operating on emergency power. Our score was 6,436 points last year. The first place score was 7,152 points. So we were just 11 percent behind. Surely we can improve our score at least that much this year.

Field Day operations will start at 2 PM (EDST) Saturday, June 24th, and end at 2 PM on Sunday. Complete rules are available at <http://www.arrl.org/contests/rules/2006/rules-fd-2006.html>. We will again operate as W4DXA but are moving to a new QTH, my house, this year. It's located west of Mooresville, off Exit 33 of I-77.

We plan to devote one of our stations to CW and the other will switch between CW and SSB as conditions and operator availability dictate. Both stations will have 150-watt transceivers with computer logging and CW key-

ing. The computers will be networked together. The antenna farm will include a 20-meter monobander, two tribanders, and two directional antennas for 40 and two wire antennas for 80.

Our plan is to have three-hour shifts with one or two people for each radio depending on the operator's choice of having a logger. If you are interested in joining our Field Day operation please contact me, Dick Williams, at w3oa@adelphia.net or 704-658-0915. Let me know what times you can be available and your preferred operating mode(s). Please do this by June 10 so we can finalize the operating schedule.

And if you can't join us, please work W4DXA on as many band/modes as possible.

—73 Dick, W3OA

CDXA PacketCluster & Other Communication Systems		
W4DXA (11 mi. NE of Mooresville)	144.93 MHz (1200 bits/second)	441.00 MHz (9600 bits/second)
K4MD Charlotte, NC	144.91 MHz (1200 bits/second)	Not Available on 9600bits/second
NG4DX (Digi near Galax, VA)	144.95 MHz (1200 bits/second) Connect to NG4DX, then type "C W4DXA"	
K4MD (AR Cluster via Telnet)	k4md.no-ip.com	
CDXA Repeater 147.18 MHz (+600)	W4DXA, Near Fort Mill, SC	
World Wide Web Homepage	www.cdxa.org	
Wednesday Luncheon (11:30 AM)	Shoney's, 355 Woodlawn Road, Charlotte, NC (704-525-4395)	

May 10 Deadline for CDXA Shirt Order

The deadline for this year's CDXA shirt order is almost here. Get your order in the mail to Dick Williams, W3OA, by May 10th to be included in this buy. Dick will also receive orders at the Wednesday lunch.

Last month's Pileup had the details and an order blank. These are also available on the CDXA web site, www.cdxa.org. Click on the link marked "SHIRTS" in the column on the left side of the page. If you have any questions, you can reach Dick at (704) 658-0915 or w3oa@adelphia.net.

KU4BP Attains 5BDXCC

Ten years of effort and it finally arrived! About ten years ago, Ed Swiderski (KU4BP) set attaining 5BDXCC as a goal. Recently, Ed enjoyed having his plaque arrive from ARRL in the mail. It was what we all call "a good mail day". Congratulations to you, Ed.

Recordkeeping—Always a Headache

Keeping up with the moves, adds, and changes in our membership is almost a full time job. Your officers have recently tried to "true up" some noted anomalies in our records—especially as regards email addresses. You can certainly help our Secretary/Treasurer Cliff Wagoner by letting us know of any changes in your personal information. It's really quite easy. You can send email to Cliff, the Webmaster, or the Editor advising us of the changes, and we'll make sure your data is updated.

The Pileup

Official Newsletter of the Carolina DX Association
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The purpose of the association is to secure for the members the pleasures and benefits of the association of persons having a common interest in Amateur Radio.

Members of the CDXA shall adhere to "The Amateur's Code" as published from time to time in *The ARRL Handbook for Radio Amateurs*, and shall consist of those valid licensed amateur operators having an interest in promoting amateur radio. Long distance communications (DX) is of special interest to members of the association, but said interest is not a requirement of membership.

Dues are \$30 per year for those using the PacketCluster maintained by the Association, \$15 otherwise, payable each January. Dues are payable by check to the Secretary/Treasurer:
Cliff Wagoner, W3ZL
P. O. Box 577
Davidson, NC 28036

Address, telephone, and email address changes should be directed to the Secretary/Treasurer at the above address or via email at: cliffw@adelphia.net.

N4PQX Attains 5BWAZ

After sitting atop the WAZ waiting list for the past several years with 199 zones to his credit, Bob Burton (N4PQX) finally nabbed his last needed zone on 80 meters to earn the 5BWAZ award. After all the formalities were completed, Bob finally was informed the he had achieved this arduous goal.

We're sure Bob has kept a prominent spot on the wall of his shack in which to hang this award. Congratulations, Bob.

The Way Things Should Work!

By John Scott, K8YC

With the promise of wonderful band conditions on the weekend of 4/29-30 (SFI=100, K=0, and A=1), I approached my stint on Saturday as volunteer radio operator at the Discovery Place Science Center in Charlotte with anticipation. Yet, I expected hordes of folks to drop in to the radio room while awaiting their timed visit to the Dead Sea Scrolls exhibit now showing there. At the end of Saturday's duty, I had logged my first ever contact with 9M2 on 15 meters for #304. It was the first time I had ever HEARD a 9M2 on the air, and I didn't expect to hear one in these doldrums of the sunspot cycle. Later that weekend from my rather simple setup at home, I was able to reach out on 17m and work the 9M2 again, S9SS on 30m, and ZL4PW on 12m CW. This was quite a thrill after such slow going in the past few months.

On the morning of May 3, I decided to load my latest log entries to LoTW. Imagine my surprise at finding all four QSLs from the weekend awaiting the arrival of my uploaded log entries. That's the way LoTW is supposed to work! It doesn't end there, however. After I returned home from the CDXA Wednesday luncheon, there was a QSL card awaiting me from A35RK on 10m from earlier this year and from Joaquim as PY0S/PS7JN for our CW contact on 30m from St. Peter and Paul Rocks. It doesn't get much better than that. That's the way things should always work, right?

—o—O—o—

Welcome New Members

The early part of a new fiscal year always brings change to the roster. Those who wait until the Charlotte Hamfest to pay their dues—IN PERSON—delays the time at which we know who will really be on the membership roles for the new year, and the Charlotte Hamfest always seems to attract new members who learn of the Carolina DX Association. The year 2006 was no different. We even had a few members return to the fold who had not realized their membership had lapsed in 2005. (At least CDXA can't be accused of being like some magazine subscriptions which provide 16 "last chances" to renew!)

This spring, our list of new members is quite large. We welcome each and every one of you, either for the first time or welcome back!

Callsign	Name	QTH
AD4YB	Ed Miller	Greensboro, NC
HR2/KC4CD	W. Lane Tarleton	San Pedro Sula
KA8FAN	Eric Webner	Concord, NC
KD4HSL	Larry Schroeder	Cary, NC
KD7BVO	Lynette Martek	Blythewood, SC
KI4ENH	Steve Misek	Charlotte, NC
KU4ZP	Tony Culberson	Liberty, NC
N4HWH	Harry Helms	Concord, NC
N4IB	Tim Slay	Mooreville, NC
N4TN	Don Jones	Kingsport, TN
N6TYE	August Flassig	Charlotte, NC
NK0S	Harvey Hutchison	Wilmington, NC
W0AH	Doug Allen	Inman, SC
W4AG	Stan Dicks	Hillsborough, NC
W4MEL	Melvin Seyle	North Charleston, SC
W4PVT	Mac Wood	Charlotte, NC
WB4TLX	Thomas McAllister	Catawba, NC

We are also happy to welcome the Forsyth Radio Club in the club membership category, even though we don't even have that category of membership in our bylaws! We hope we'll be seeing all of you at some of the upcoming events such as Field Day 2006, our Wednesday luncheons, contests, or our annual barbeque.

—o—O—o—

The Toolbox

By Don Daso, K4ZA

(Reprinted from the PVRC Newsletter, with permission.)

As promised in a recent article, here are some remarks on taps and dies—tools we use for cutting threads. And please remember that these tips are designed to be applied or used "in the field," not in a modern, fully-equipped machine shop.

A tap looks like a headless bolt, and is used to make female threads. A die looks like an oversized nut, and is used to make male threads. Both tools have threads, just like the threads on nuts and bolts, but the threads on taps and dies have cutting edges, designed to cut threads in smooth metal surfaces or on shafts.

Typically, taps come in three types: plug, taper, and bottoming. Plug taps are most common. Plug taps have a fairly steep taper at their points, so they will cut full depth threads after only a few turns. Bottoming taps have no taper at all. As a result, bottoming taps cannot be used to start new threads; they're used only to cut threads to the bottom of a "blind" hole (a hole that doesn't go all the way through your material). Taper taps are like plug taps, except that they have a more gradual taper to the point. This taper makes it easier to tap a straight hole by hand, although this can also be done with a plug tap if you're careful.

Taps are metal cutting tools, and therefore need to have very hard cutting edges. Because of the type of steel and heat treatment required to enable them to cut metal, they're extremely brittle. Using them requires that you take your time, in order not to break the tap. This is especially true with smaller sizes, popular in electronics work. If you do break a tap, it can be nearly impossible to remove, as it cannot be drilled out, since the tap is harder than your drill bit.

Taps are usually broken by bending, not twisting. Which is why a special tap wrench should always be used—to ensure symmetrical forces are applied to the tap. And if possible, try to align the tap vertically, to ensure threads are cut straight through the hole. (I always try to use my drill press to "start" cutting the threads, with a live center or other support guiding the tap wrench vertical. After two or three full-body threads are cut, back out

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the drill head, and simply turn the tap by hand. Always use plenty of cutting fluid, backing the tap out often to clear the threads. Taps will break if their flutes become clogged with chips, and you exert extra pressure to keep going.

Good tapping technique means you break up the “strips” cut by the tap threads into smaller pieces, which then escape along the flutes. You do so by turning the tap backward. Here’s how: turn your tap forward one-third to one-half turn, or until you feel resistance. Then, go backward until it turns freely again (one-quarter to one-half turn, typically). For deep taps, it’s often necessary to go part way in, then unscrew the tap completely so you can clean the chips out. Again, to lube the work for general hand tapping of steel, any oil will work fine; for aluminum, kerosene works well. (This is a great way to “use” old motor oil, by the way. Since you’ll never use it again for lubrication, simply dipping the part or tap into the oil works great—who cares if chips fall in?)

Correct Hole Size

It’s essential you drill the correct size hole for the size of tap you want to use. If the hole is too small, you’ll probably break the tap when you try to cut the threads. If the hole is too large, the tap will go through easily. But the threads will be shallow and soon strip out. So, when you buy taps, you should also buy the appropriate drill bits to go with them. Then these bits can be kept with your taps, and used only for drilling holes that are to be tapped. In electronics work, for instance, a #10-32 tap (rack cabinet hardware) requires a #21 drill bit for proper fit.

Hint: If you buy a set of number size drill bits, you will get 80 drill bits, ranging in size from .0135 inch to .2280 inch. Such bits will overlap the basic 1/64-inch to 1/4-inch fractional set already in your toolbox. Most of these number size drill bits will be of little use to you, so you’ll have spent a lot on tools you won’t use. It makes more sense to spend a few dollars to buy the few sizes you really need—again, when you buy the taps. If money is no object, you can spend a few hundred dollars on a good tap and die set, but 95-percent of the tools in such a set will be of no use for electronics work. Buy just the particular taps and dies you think you’ll use. I suggest: 4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 1/4-28, and 5/16-18; these should suffice for most radio or antenna-

related projects. Here, I’d be remiss if I didn’t say there’s one small and inexpensive type of tap set (Irwin, for instance, sells one) that makes complete sense for your toolbox. It’s often called an “electrician’s” set, and typically has taps only, no dies, in six sizes ranging from #4-40 to 1/4-20. The set also has the appropriate drill bits to go with these taps, conveniently packaged with a suitable tap wrench. What’s in your toolbox?

Tap Drill Chart for Some Common Sizes

Tap Size	Drill Size	Nearest Fractional Size
#4-40	#43	3/32
#6-32	#36	7/64
#8-32	#29	9/64
#10-32	#21	5/32
#10-24	#25	5/32
#12-24	#16	11/64
1/4-20	#7	13/64

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“Must” Reading for Hams

I was surfing through the NG3K website the other day. (It’s a link off the CDXA “Great Links” selection.) I ran across yet another link off of the NG3K website called “The Wayback Machine”. At this website Bill Continelli, W2XOY, has put up for all to read a marvelous 16 installment history of amateur radio. I haven’t finished reading all installments as yet, but I did get through the first three or four. I found some information on the communications companies vying for the radio services on early transoceanic liners—a notable one being the Titanic—had a most interesting impact on that tragic event.

I’m sure you’ll find the articles fascinating, and I wanted you to be aware of them. (--The Editor, K8YC)

A Note from Mauro, IN3QBR

Hello John— I am happy to read you again. I am just back from Sardinia where I have been for the fourth time in five months. My next travel there will be in October.

My latest operation was very modest since it was primarily intended to test setting up my portable antenna system for future use. Because I wasn't feeling well, I did not operate on low bands, and I only worked WPX on 20 meters. I did better last February in the ARRL DX CW contest when I operated 160 meters with a claimed result of 362 QSOs and 49,140 points.

Along with this note, I am sending you a picture of my portable antenna farm. You can see (left to right) 80 to 10 WARC including multiband inverted vee, 144MHz 5/8 wave ground plane for PacketCluster, 20/15/10m 3 element yagi, 80m vertical, 160m inverted L on 24m mast, and a multiband vertical Cushcraft R8.

All these are very light and can be carried on the roof of my car. It is my "stealth" system! Now I am building a portable 40m four-square and I plan to test it next October. I am pleased when I hear my fellow members of CDXA in the contests.

—73 and good DXing

Mauro Tomazzoni



A lovely sunset on Sardinia. This may not reproduce well, but all that Mauro claims is there, is really there.

S01R From "The Other Side"

By Fabrizio "Brix" Vedovelli, IN3ZNR
(An Exclusive Report to CDXA Members)

Dear CDXA members— My plans for last springtime were to hit the airwaves with my fellow friend Joe (AA4NN) from the Andamans. Unluckily my business commitments only allowed me to have some days off at Easter time. I was very sad for that, but in the late February, an email from my old friend Tony (EA5RM), give me some wonderful news. An effort from Western Sahara was on the way, exactly before Easter, and my seat in the crew was ready! The callsign and licenses were already issued as S01R (Sierra Zero One Radio). All logistic and accommodation were almost settled.

Although this country wasn't in the top 10 of most wanted DXCC, the DXpedition looked interesting and enjoyable. After a brief consultation with my family, I got the green light, and I started my preparations. The situation in Western Sahara (well known also as RASD, Republic Arabic Saharaui Democratic) is somewhat unsettled, but it is not dangerous at all. Our location was to be in "Tifariti", an outpost of formerly Spanish "Tercio" (Spanish colonial troops), located in the free area of the country. Only about 20 percent of the former Spanish Sahara is "free" by Moroccan troops, and all the RASD territory is close to Algerian (7X) and Mauritania (5T5) borders.



EA5RM and IN3ZNR arrive in Tifariti after a long flight.

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My teammates sent me our itinerary, and at first view, it looked extremely hard. (Now, I can tell you it was !). On Sunday, April 9, my trip from Italy to Alicante (Spain) via Madrid was very simple, except for the usual questions by customs about my strange luggage. The day after, April 10, all the team left Spain with Air Algeria, heading to Tindouf, in the extreme southern part of Algeria, North Africa. We brought along about 500 kg of equipment and luggage. We were with 300 kg more than what was allowed in that charter flight! After some diplomatic discussion, we were able to load everything in the airplane. Our landing in Tindouf was at 04:30 AM on April 11. In the airport, Mahafud, chief Department of Ministry of Communications, was waiting for us. He has the ham callsign of S01MZ. After some normal custom troubles, we took a short rest. At day-break, with three four-wheel drive cars we had to travel inside the free zone. This eight hour trip in the desert, sometime with no tracks, was an unbelievable experience for us and quite difficult. Luckily all the equipment reached Tifariti in good shape, despite the hundreds bumps along the way.



Brix is welcomed to Tindouf, Western Sahara by Mahafud of the Ministry of Communications.

In the late afternoon we started setting up our equipment and antennas. My first job was to mount the HF9 Butternut, one of our spare antennas. One and a half hours after our arrival, we had one station on the air. Due to the fact that our plans called for having four stations active at the same time, everyone had a job cut out for themselves. We had three beams to assemble, a lot of dipoles, and three station in the shack. I was in charge of low band antennas including a top band (160 m)—an inverted "L" with 21m vertical leg and a horizontal leg of 17 m was ready for the second night. This set up was enough for to allow us to work about 1200 stations on top band. This was the first serious effort on 160 m made from Western Sahara. Mauro (IN3QBR) kindly lent me a K9AY antenna for RX the low bands. I had some doubts about the desert ground (dry, rocks and sand). We thought it would be the worst situation you could find in the field. But when we checked out the bands, we found not too big noise and good signals.



Ready for business at S01R.

In the early going, we were forced to use only 100 watts, due to our generator capacity. Finally, after 30 hours of barefoot activity, a generator with greater capacity was installed with the help of RASD Army, and our output power raised to 500-600 watts, for at least two stations. The pileup as usual was endless and quite strong from Europeans. The second day we were visited by six to seven officers of "Minurso", the United Nations forces that were located very close to our QTH. They were very curious to understand what was happening on the hill...(Antennas, generators noise and RF.

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HI!) They wanted to know what we were doing there, and after some explanations, they left us in the late afternoon. That same night, we had another “visitor”, but this one was not so friendly. It was a very strong sand storm that luckily broke only one element of our “Spiderbeam”. In the morning we fixed it with no problems. The food in Tifariti was very unusual, but not too bad. I ate camel and goat meat, and others things with good taste, but no name! HI.



UN peacekeeping forces paid S01R a visit to find out what the antennas and RF energy was all about.



The “night visitor” was not as kind as the UN forces, and left the spiderbeam in a bad, but repairable, way.

Our biggest troubles there were the danger of dehydration, and tiredness. The temperatures in daytime were very high and we sweated a lot. The nights were cold, and the use of blankets was compulsory. To keep at least three stations on the air around the clock with only

9 operators was a challenge, and the last days we were really tired for the effort. Yet the pileups continued strong and wild, as usual. We kept asking a lot of the time for “outside Europe only”, and this for sure was good for North America. We worked more than 6000 stations from USA and Canada. The grand total was 30.000 QSOs—not too bad for only 4 full days of operations, is it? We only failed our target of working JA stations. From the desert of North Africa, the worst path is toward Far East Asia. Less than 300 stations from there are in the log, although we was asked several times daily for “JA only”.

I'm very glad to know that many of you are also in the log on 160 meters. On April 16, (Easter) early in the morning we dismantled the whole setup. At 10:00 AM, I had the pleasure of making the last QSO on 17 meters. That same day at midday, we departed from the deep Sahara Desert toward the Algerian border. We spent the night in the Saharai refugee camp, and in the late evening of April 17, we left Africa for Alicante, Spain. I can't begin to explain the joy of finally being able to have a hot shower with no water restrictions, and a real bed to sleep in—you only understand the real value of things when you've lost it. Finally, on April 18 in the afternoon, I arrived home. I've been in many strange countries, but I have never spent an entire week in the heart of Sahara Desert. Life there is really hard—no hotel, no clear water, no “western style” rest rooms. When home, I found that I lost 2,5 kg of my weight. But the experience was unforgettable, and people were very friendly. You can find more of the operation on the web at: <http://www.s01r.com>. Logs, video and pictures are there. Last, but not least, while in Western Sahara I wore my CDXA t-shirt. Many in the crew recognized the CDXA logo, others asked about it. CDXA is beginning to become well knew in the EU, HI. —73 Brix, IN3ZNR-WH0Q

Backscatter Article Prompts Discussion

Emil Pocock, W3EP, wrote a great article on backscatter in the April, 2006 issue of CQ Magazine. Emil is well known in VHF circles as editor/author and has operated from AA4ZZ's station. The article shows just how creative the Amateur Radio community can be and breaks new ground on the magic of propagation. We'll discuss more next month. Read the article in the meantime.

The Back Page

It is time to start thinking about **Field Day— 2006**. Contest Manager, Dick Williams (W3OA) is getting things ready at his QTH to host CDXA's 2006 effort. See Dick's article on Page 1 of this issue.

May 10 is the last day you can get your order in for an embroidered **CDXA Shirt**. Order blanks were included in last month's Pileup and are available on the CDXA website. More information on Page 2, inside.

If your **membership information** has changed, please keep CDXA informed. It is a never-ending job to keep up with email address changes. Please help out your officers when things change. More information inside on Page 2.

We have two articles inside from our Italian members —**Mauro (IN3QBR) and Brix (IN3ZNR)**. Brix provides us an inside view of the recent DXpedition to Western Sahara—exclusive to CDXA. See page 5 for both articles.

No **Pileup** next month while your editor gets a break.

Upcoming contests:

<u>Date(s)</u>	<u>Contest</u>	<u>Comments</u>
May 12	Georgia QSO Party	See: http://gqp.contesting.com/Rules.htm
May 15	Michigan QSO Party	See: http://www.miqp.org/MiQP_Rules.htm
May 13-15	Mid-Atlantic QSO Party	See: http://www.maqp.info
May 13	FISTS Spring Sprint-CW	1700Z to 2100Z See: http://www.FISTS.org
June 24-25	Field Day-2006	See: http://www.arrl.org for rules

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